

ZINDEL', L.A.; SIMONENKO, I.A.; PETROV, N.P., kand. geol.-mineral.
nauk, otv. red.; PUSHCHEVIC, Z.V., red.; KARABAYEVA,
Kh.U., tekhn. red.

[Mineralogical and geochemical characteristics of clays
and the petroleum and gas bearing potential in the
Jurassic sediments of the Fergana] Mineralogo-geokhimi-
cheskaia kharakteristika glin i nekotorye voprosy nefte-
gazonosnosti iurskikh otlozhenii Fergany. Tashkent, Izd-
vo AN Uzb.SSR, 1963. 112 p. (MLA 17:1)
(Fergana--petroleum geology)

ABDULLAKHODZHAYEV, A.A.; PETROV, N.P.; RASULOV, Sh.K.; KHAMRABAYEV, I.Kh.

Weathering surfaces of Uzbekistan. Kora vyvetr. no. 6:231-
240 '63. (MIRA 17:9)

1. Institut geologii AN Uzbekskoy SSR, Tashkent.

PETROV, N.P.

Formation of Mesozoic and Cenozoic **slat** **deposits** in the south of
Central Asia. **Uzb.geol. zhur.** 7 no.549-17 '63. (MIRA 1963)

1. Institut geologii im. Kh.M.Abdulhayeva AN UzSSR.

PETROV, I.F.; KRISTYAKOV, I.A.; BABAYEV, A.G., *доктор геол-
минер. наук, отв. ред.*; LAJASH, I.A., *ред.*

[Lithology of salt and red-bed sediments in the south-
western part of the Gissar range. *Litologiya i stratigrafiya
krasnotsvetnykh otlozheniy i solonchakov Gissarskogo mts.
Tashkent, Izd-vo "Fan"*, 1964, 114 p. (MIRA 1:1000000)

PETROV, N.P., kand. geol.-miner. nauk, otv. red.; VORONICH, T.M.,
kand. geol.-miner. nauk, red.; GOR'KOVY, O.P., kand.
geol.-miner. nauk, red.; KENZIN, I.A., kand. geol.-miner.
nauk, red.; MUSIN, R.A., kand. geol.-miner. nauk, red.;
SHEKTOV, L.Ye., red.

[Geology and minerals of Uzbekistan] Geologiya i poleznye
iskopaemye Uzbekistana. Tashkent, Nauka, 1964. 109 p.
(MIRA 17:5)

1. Akademiya nauk Uzbekskoy SSR. Tashkent. Institut geologii
i geofiziki.

BULGARIA / Chemical Technology, Chemical Products and Their Application, Part 4. - Natural and Synthetic Caoutchouc, Rubber. H

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 63003.

Author : M. Kostova, N. Petrov.

Inst : Not given.

Title : Fixing Rubber on Metal.

Orig Pub: Leka promishlenost, 1957, 6, No 8, 13 - 16.

Abstract: Various methods of affixing natural (NR) and synthetic (SR) rubber to steel (99.35% of Fe, 0.32% of Mn, 0.24% of C, 0.07% of P, 0.02% of S) were studied. The best glue for the mixture of Buna N and butadienestyrene rubber is chlorinated rubber, because neither the air moisture, nor the method of cleansing of the metal surface have any effect on it. Mixing two kinds of chlorinated rubber with different

Card 1/1

Card 2/2

41

BULGARIAN/Chemical Technology. Chemical Products and Their
Applications. Leather. Part. General. Leather
Materials. Industrial Leatherins.

H

abs

abs Jour: Ref Zhur-Khim., No 6, 1959, 29956.

Author : Antonov, M. and Petrov, H.

Inst :

Title : Leather Substitutes of the Paperboard Type.

Orig Pub: Leka Promishlenost, 7, No 2, 10-11 (1959)
(in Bulgarian)

Abstract: The authors describe pilot plant tests on the produc-
tion of paperboard type leather substitutes from
sole leather croppings (C) (vegetable tanned) and
35% SKS-30 latex. The process is operated as follows:
the C are soaked in a 2% (in the weight of the C)

Card g : 1/3

BULGARIA/Chemical Technology, Chemical Products H
and Their Applications. Caoutchouc,
Natural and Synthetic. Rubber.

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 21692

Author : Petrov, N.
Inst : Bulgarian Institute of the Rubber and
Leather-Shoe Industry.
Title : Organic Synthesis of Porous Rubber and
Plastics.

Orig Pub : Leka promishlenost, 1958, 7, No 3, 12-16

Abstract : The performance of porous synthetics of the
type of azodinitrils, diazoamino compounds,
nitrosoamines, azides, sulfohydrazides and
derivatives of dicarboxylic acids is descri-
bed. "Porofor" BSH in paraffin decomposes

Card : 1/2

PETROV, N. P.

18
452c
Inert atmosphere for heat treatment of nickel-base
stainless alloys. N. P. Petrov and N. N. Shakhov.
U.S.S.R. 105,665, May 25, 1967. The protective atm.
consists of products of almost complete combustion of
natural gas: $CO_2 \leq 0.10$, $CO \leq 4$, $H \leq 3.5\%$, rest N.
The dew point atm. is $\leq -50^\circ$.
M. Hosh

AUTHORS: Kuleshov, M. Ya., Petrov, N. P., Candidates of Technical Sciences and Vlasov, V. I., Engineer. 129-7-8/16

TITLE: Influence of the conditions of deformation on the properties of the BA-17 aluminium alloy. (Vliyaniye usloviy deformirovaniya na svoystva splava VD-17).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.7, pp.33-39 (U.S.S.R.)

ABSTRACT: This alloy is used in the Soviet Union for manufacturing compressor blades of aviation engines by stamping blanks from pressed sheet. Its chemical composition is: 3% Cu; 2.3% Mg; 0.6% Mn; up to 0.3% Fe; up to 0.3% Si; rest Al. The authors consider it of practical interest to study the conditions of deformation on the structure and mechanical properties of this alloy and in this paper the influence of the temperature and the degree of deformation on the fundamental properties of the alloy are investigated. The tests were carried out on strips of 60 x 100 mm cross section from a single melt which were hardened and artificially aged. Four specimens were subjected to long duration strength tests at 270 C with a load of 6.5 kg/mm² and after 100 hours loading the specimens were removed without any failure. The macro and micro-structure conformed to the requirements which have to be

Card 1/3

Influence of the conditions of deformation on the properties of the BA-17 aluminium alloy. 129-7-8/16

met by the material in the hardened state. The blanks were deformed in a 700 ton press applying reductions of 17, 28 and 40% at the temperatures 20, 150, 300, 400, 450 and 500 C; the heating time was 40 mins. After shaping, the specimens were hardened and aged at 180 C for 16 hours. Fig.1 shows the relation between the relative elongation and the widening of the blanks as a function of the degree of deformation at 450 C. Figs. 2-6 show the macrostructures of blanks deformed by 28% (magnification 2.5 times) at 20, 450, 300 (transverse), 300 (longitudinal), and 500 C respectively; Fig.7 shows the structure of a blank deformed by 40% at 450 C, magnification x20. In Fig.8 the relation is plotted between the degree of deformation at 20 C of the turns of a thread and their distribution along the height of the blank; Fig.9 shows the same relation applicable for 450 C; Fig.10 shows the same relation for a total deformation of 40% at 500 C. Fig.11 shows a three-dimensional recrystallisation diagram expressing the grain size as a function of the degree of deformation and the temperature. Fig.12 shows the dependence of the mechanical properties of the alloy, after being deformed by 28%, as a

Card 2/3

MAKOLKIN, I.A.; PETROV, N.P.; FAYMAN, V.G.

Kinetics of the gaseous corrosion of the EI-473B alloy in air and
in a nitrogen-hydrogen atmosphere. Zhur.prikl.khim. 31 no.11:
1678-1686 N '58. (MIRA 12:2)
(Corrosion and anticorrosives)
(Oxidation)
(Protective atmospheres)

-PETROV, N.P., kand.tekhn.nauk; TROSHKIN, I.T., inzh.; SHAYHOV, N.N., inzh.;
TYURIKHOV, S.H., inzh.

Modernization of PNOOE-60 atmosphere preparation plants. Metalloved. i
term. obr. met. no.2:45-48 J '61. (MIRA 14:3)

1. Moskovskiy tekhnologicheskii institut i Mashinostroitel'nyy zavod
Mosgorsovnarkhoza.

(Metallurgical furnaces—Protective atmospheres)

PETROV, N.P., kand.tekhn.nauk; TROSHKIN, I.T., inzh.

Heat treatment of steel products in an exothermal with a high
carbon potential. Metalloved. i term. obr. met. no.6:18-21
Je '61. (MIRA 14:6)

1. Moskovskiy tekhnologicheskii institut i Mashinostroitel'nyy
zavod Mosgorsovnarkhoza.
(Steel—Heat treatment)

PETROV, N.P., kand. tekhn. nauk; TROSHKIN, I.T., inzh.; FILIPPOV, A.P., inzh.

Heat treatment of 30KhGSA, 30KhGSNA, 38Kh¹, and 40KhNVA steels
in an endothermic atmosphere. Vest. mashinostr. 43 no.10:
61-63 0 '63. (MIRA 16:11)

PETROV, N.P.; TROSHKIN, I.T.; FILIPPOV, A.P.

Bright hardening with heating in an endothermic atmosphere. Metalloved.
1 term. obr. met. no.9:31-35 S '64. (MIRA 17:11)

3 . .
L 65098-65 EWT(m)/EWP(t)/EWP(b) IJP(o) JD
ACCESSION NR: AP5021968

UR/0286/65/000/014/0013/0013
661.631.3.4

AUTHOR: Postnikov, N. N.; Ablichenkov, I. I.; Miniks, M. V.; Strel'tsov, A. N.;
Bol'shakova, A. P.; Petrov, N. P.; Krasinskiy, I. Ya.

TITLE: A method for producing yellow phosphorus. Class 12, No. 172730

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 13

TOPIC TAGS: phosphorus, nonmetal element

ABSTRACT: This Author's Certificate introduces a method for producing yellow phosphorus from high-carbonate phosphorus raw material by volatilization in electric furnaces. The process is intensified by heat treating the raw material at 950-1050°C before charging the furnace.

ASSOCIATION: Nauchno-issledovatel'skiy institut po udobreniyam i insektofungitsidam goskhimneftekomiteta pri Gosplane SSSR (Scientific Research Institute for Fertilizers and Insectofungicides, Goskhimneftekomitet, Gosplan SSSR); Leningradskiy gosudarstvennyy institut po proyektirovaniyu zavodov osnovnoy khimicheskoy promyshlennosti

Cord 1/2

L 65098-65

ACCESSION NR: AP5021968

nosti goskhimneftekomiteta pri Gosplane SSSR (Leningrad State Institute for the
Planning of Factories for the Fundamental Chemical Industry, Goskhimneftekomitet,
Gosplan SSSR)

SUBMITTED: 27Jan64

ENCL: 00

SUB CODE: IX, GE

NO REF SOV: 000

OTHER: 000

MOR
Card 2/2

PETROV, N.I. (Varoslavl') SIMON, A.A. (Varoslavl')

Neobshchestvennoye delo: puti razvitiya. P. 1. (MIRA 1986,
no. 6-7, 1986).

1. Zamestitel' nauchnogo direktora (fot. Petrov).
2. Nauchnik puti razvitiya stentsii Severnogo dorozi
(fot. Simon).

PLANNING, ...; ...; ...

... ..

... ..

... ..

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0

1.1 AMT, 1.1 AMT, 1.1 AMT

1.1 AMT, 1.1 AMT, 1.1 AMT

1.1 AMT, 1.1 AMT, 1.1 AMT

1.1 AMT

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0"

PETROV, N.P., KHANOV, . Kh.

Origin of "mamie." Vzd. geol. zhur. 8 no.5:74-76 1964. (UTSA 12:5

1. Institut geologii i geofiziki im. Kh.M.Abdulayeva AN BSSR.

SYRNEV, Vladilen Pavlovich; PETROV, Nikolay Panteleymonovich; SEDOV, A.I.,
kandidat tekhnicheskikh nauk, inzhener-podpolkovnik, redaktor;
KADNER, Ya.N., redaktor; SRIBNIS, N.V., tekhnicheskiy redaktor.

[Radioactive emissions and their measurement] Radioaktivnye izlu-
chenia i ikh izmereniia. Moskva, Voen. izd-vo Ministerstva obor.
SSSR, 1956. 159 p. (MIRA 9:6)

(Radioactivity--Measurement)

PHASE I BOOK EXPLOITATION

SOV/450

Petrov, Nikolay Panteleymonovich, and Vladillen Pavlovich Syrnev

Radioaktivnyye izlucheniya i ikh izmereniya (Radioactive Radiation and Measurement, 2nd ed., rev. and enl. Moscow, Voenizdat, 1960. 190 p. (Series: Nauchno-populyarnaya biblioteka) Number of copies printed not given.

Ed.: A.I. Sedov, Candidate of Technical Sciences, Engineer, Lt. Colonel; Ed. of Publishing House: Ya.M. Kader; Tech. Ed.: V.Ye. Volkova.

PURPOSE: This book is intended for officers of the Soviet Army, DOSAAF instructors, and those interested in radioactive radiation and the measurement of radioactive radiation.

COVERAGE: The book deals with radioactive radiation and methods of detecting it and includes the fundamentals of ionizing-radiation dosimetry and methods of recording ionizing radiation. The design principles and construction of the basic types of dosimetric field instruments are described, and operating instructions are given for their utilization in a contaminated locality in the area of an atomic explosion. Considerable attention is given to the characteristics of radioactive radiation. No personalities are mentioned. There are no references.

Card 1/3

PETROV, NIKOLAI PAVLOVICH.

Gidrodinamicheskaya teoriya smazki; izbrannye raboty. Red. i kommentarii
L. S. Leibenzona. [Moskva] AN SSSR, 1948. 550 p., ports., diagrs.
(Akademiya nauk SSSR. Klassiki nauki)

"N. E. Zhukovskii i S. A. Chaplygin. O trenii smazochnogo sloia mezhdu shipom
i podshipnikom. [Friction of the lubricating layer between the journal and
the bearing.] N. P. Petrov. Tvorets gidrodinamicheskoi teorii treniya -
Mikolai Pavlovich Petrov": p. 483-535. [Nikolai Pavlovich Petrov, creator
of the hydrodynamic friction theory.] "Spisok sochinenii N. P. Petrova":
p. [546]-550. [List of works by N. P. Petrov.]

Hydrodynamic theory of lubrication. Selected works.

DLG: TJ1075.P45

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1943.

313

AUTHOR: Petrov, M.P., Engineer and Oliferova L.D., Engineer.
TITLE: Selection tests for oil additives on a single cylinder diesel engine. (Otborochnye ispytaniya prikalok i masla na odnotsilindrovom dvigatele.)

PERIODICAL: "Energomashinostroyeniye", (Power Machinery Construction), 1957, No. 5, pp. 19 - 21, (U.S.S.R.)

ABSTRACT: For operation in diesel engines, the properties of mineral lubricating oil can be improved by the use of detergent additives which are able to dissolve particles of coke, resin and other products that form in the oil and wash them out of the piston ring grooves. The detergent action of additives is usually verified by laboratory tests, but for complete and all-round study, it is most convenient to test them in an engine. The procedure that we adopted is based on the principle that with given experimental conditions the greater the time before ring sticking occurs the better the thermal stability of the oil with additives. Thus by operating the engine on oil with different additives which increase its thermal stability it is possible to select the most effective additives for operation with the given diesel engine. The tests with each additive were continued until the rings were stuck and ceased to operate reliably, which was determined from a marked increase in the quantity of gas passing to the crank case. The operation of the piston rings was checked by the pressure in

Selection tests for oil additives on a single cylinder³¹³
diesel engine. (Cont.)

for oil with 3% of the best additive. It is concluded that the test methods adopted give practical graphic and useful results. When additives to a concentration of 3% weight are blended into oil grade MK-22 the time to ring sticking in this test are as follows:

Additive	Time
TsIATIM-339	110 hours
DFI	86 hours
AFB	69.5 hours
(However, with this additive the piston and rings became overheated and the rings lost their elasticity.)	
Azhil-TsIATIM	34 hours
TsIATIM-339	23 hours 47 minutes
(Oil of the Orsk Refinery was used in this test.)	
ΔIFI	10 hours
No additive (oil MK-22)	10 hours.

4 figures, no literature references.

MAVLIYANOV, G.A., matematik, otv. red.; AKERAKH DZHAYEV, A.M., red.;
KINERDARIN, N.A., red.; KHAMMAMAYEV, I.Kh., doktor geol.-
min. nauk, red.; JHAYEV, S.G., doktor geol.-min. nauk,
red.; IETKIN, N.I., kand. geol.-min. nauk, red.;
SIEKTOV, I. Ye., red.

[Problems of the geology and mine ails of Uzbekistan;
papers of the geologists of Uzbekistan for the 22d. Ses-
sion of the International Geological Congress in 1964]
Problemy geologii i poleznykh iskopaemykh Uzbekistana;
trudy geologov Uzbekistana na XXII sessii mezhdunarodnogo
geologicheskogo kongressa 1964.g. Tashkent, Nauka UzSSR,
1964. 184 p. (SUA 18:1)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut geol-
ologii i geofiziki. 2. Akademiya nauk Uzbek. (for
Mavliyano, Kinerdarin). 3. Chlen-korrespondent Akademii
nauk Uzbek.SSR (for Akhmedzhanayev).

PETROV, N.P., podpolkovnik med.sluzhby

Late results of tonsillectomy and penicillin-novocaine block.

Voen.med.zhur. no.9:80-82 S 157.

(MIRA 11:3)

(TONSILLECTOMY,

with penicillin & procaine ther. (Rus)

(PROCAINE, therapeutic use,

in tonsillectomy, with penicillin (Rus)

(PENICILLIN, therapeutic use

in tonsillectomy, with procaine (Rus)

SHUSTOROVICH, Ya.A., inzh.; PETROV, N.P., inzh.

Calculating diesel installations operating with pulsating
loads. Energomashinostroenie 6 no.3:16-18 Apr '60.

(MIRA 13:6)

(Diesel engines)

KUZIN, V.A., inzh.; PETROV, N.P., inzh.

Centrifugal separator for liquids with automatic control. Main task.
no. 4:5-8 JI-Ag '61. (MIRA 14:5)

(Centrifuges) (Automatic control)

BATALOV, A.B.; BRAGIN, K.A.; ISMAILOV, M.I.; KASIMOV, A.K.; KAKHKHAROV, A.K.;
KUCHUKOVA, M.S.; MATSOKINA, T.M.; MIRKHODZHAYEV, I.M.; MUSIN, R.A.;
PETROV, N.P.; PLATONOVA, N.A.; RABAYEVA, E.Ye.; ~~RUZANOV~~, I.V.;
SMORODINOVA, D.D.; KHAMRABAYEV, I.Kh.

In memory of Mannon Khamidovich Khamidov. Uz. geol. zhur. 7 no.1:49
'63. (MIRA 16:4)

(Khamidov, Mannon Khamidovich, 1928-1962)

AKRAMKHODZHAYEV, A.M.; AKHMEDZHANOV, M.A.; BABAYEV, A.G.; BABAYEV, K.L.;
BATALOV, A.B.; BASHAYEV, N.P.; BAYMUKHAMEDOV, Kh.N.; BRAGIN,
K.A.; BORISOV, O.M.; GABRIL'YAN, A.Sh.; GAR'KOVETS, V.G.;
GOR'KOVVOY, O.P.; GRIGORYANTS, S.V.; IBADULLAYEV, S.I.; ISMAILOV,
M.I.; ISAMUKHAMEDOV, I.M.; KAKHKHAROV, A.; KENESARIN, N.A.;
KRYLOV, M.M.; KUCHUKOVA, M.S.; LORDKIPANIDZE, L.N.; MAVLYANOV,
G.A.; MOTSOIKINA, T.H.; MALAKHOV, A.A.; MIRBABAYEV, M.Yu.;
MIRKHODZHIYEV, I.M.; MUSIN, R.A.; NABIYEV, K.A.; PETROV, N.P.;
POPOV, V.I.; PLATONOVA, N.A.; RYZHKOV, O.A.; SAYDALIYEVA, N.S.;
SERGUN'KOVA, O.I.; SLYADNEV, A.F.; TULYAGANOV, Kh.T.; UKLONSKIY,
A.S.; KHAMRABAYEV, I.Kh.; KHODZHIBAYEV, N.N.; CHUMAKOV, I.D.;
SHAVLO, S.G.

Khabib Mukhamedovich Abdullaev; obituary. Uzb.geol.zhur. 6
no.4:7-9 '62. (MIRA 15:9)
(Abdullaev, Khabib Mukhamedovich, 1912-1962)

1. The first part of the report

2. The second part of the report

3. The third part of the report

4. The fourth part of the report

5. The fifth part of the report

6. The sixth part of the report

Polka V, ...

Potatoes

"Square-nest" (planting of potatoes) ...

Polka V,

ZALIVSKIY, Ippolit Leopol'dovich; RODIONENKO, G.I., kandidat biologicheskikh nauk, redaktor; PETROV, N.P., redaktor; CHUNAYEVA, Z.V., tekhnicheskiiy redaktor.

[Decorative shrubbery] Dekorativnye kustarniki, Pod red. G.I. Rodionenko.
Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 205 p. (MLRA 10:5)
(Shrubs)

FILOV, Aleksandr Ivanovich; PETROV, N.P., redaktor; CHUNAYEVA, Z.V., tekhnicheskly redaktor

[Peppers and eggplants] Pertsy i baklazhany. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 366 p. (MLRA 10:1)
(Pepper) (Eggplant)

ALEKSANDROV, Sergey Vasil'yevich, kandidat sel'skokhozyaystvennykh nauk;
BELYAYEV, Anton Semenovich; VASIL'YEV, Vasil'y Luk'yanovich, kandidat
sel'skokhozyaystvennykh nauk; KAZAKOVA, Antonina Alekseyevna, kandidat
sel'skokhozyaystvennykh nauk; KAMERAZ, Abram Yakovlevich, kandidat
sel'skokhozyaystvennykh nauk; SECHKAREV, Boris Ivanovich, kandidat
sel'skokhozyaystvennykh nauk; BREZHNEV, D.D., professor, doktor
sel'skokhozyaystvennykh nauk, redaktor; PETROV, N.P., redaktor;
CHUNAYEVA, Z.V., tekhnicheskij redaktor

[Vegetable gardening] Ovoshchevodstvo. Pod red. D.D. Brezhneva. Moskva,
Gos. izd-vo selkhoz. lit-ry, 1956. 472 p. (MLRA 9:12)
(Vegetable gardening)

REL 11

GRACHEV, V.I.; brigadir-sadovod; NIKISHIN, K.G., dotsent; PAVLOVA, L.I., assistant; PETROV, N.P., redaktor; CHUNAYEVA, Z.V., tekhnicheskiy redaktor.

[Growing strawberries on the Stalin Collective Farm] Vyrashchi-
vanie zemliani v kolkhoze imeni Stalina. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1957. 42 p. (MIRA 10:11)

1. Kolkhoz imeni Stalina, Luzhskogo rayona Leningradskoy oblasti
(for Grachev). 2. Leningradskiy sel'skokhozyaystvennyy institut
(for Nikishin). 3. Kafedra plodovodstva Leningradskogo sel'sko-
khozyaystvennogo instituta (for Pavlova).
(Strawberries)

1871
PETRENKO, Aleksey Petrovich; PETROV, N.P., redaktor; CHUNAYEVA, Z.V.,
tekhnicheskij redaktor

[Tomato growing in non-Chernozem regions of the U.S.S.R.] Vyra-
shchivanie tomato v nechernozemnoi poloske SSSR. Izd. 2-oe. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1957. 123 p. (MLRA 10:10)
(Tomatoes)

PETROV, N.P., redaktor; MATINYAN, N.I., redaktor

[Experience in growing vegetables under cover] Opyt ovoshchevodov
zakrytogo grunta. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 299 p.
(Vegetable gardening) (MLRA 10:8)
(Greenhouses)

ZAYEV, Petr Petrovich, kand.sel'skokhozyaystvennykh nauk; ZHEZHEL', Nikolay
Grigor'eyvich, doktor sel'skokhozyaystvennykh nauk; PEDOSEYEVA,
Marianna Petrovna, kand.sel'skokhozyaystvennykh nauk; PETROV, N.P.,
red.; CHUMAYEVA, Z.V., tekhn.red.

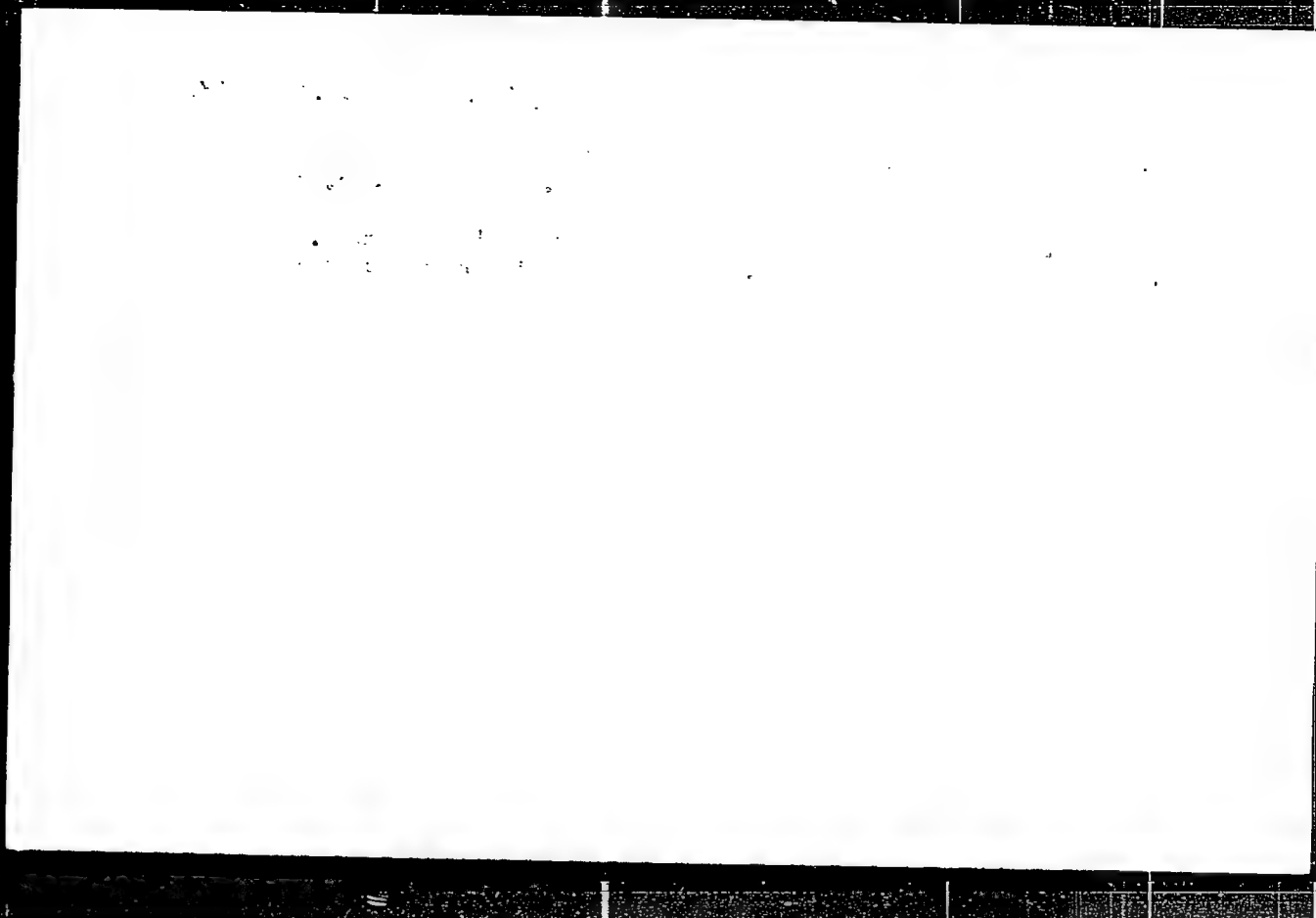
[General agriculture] Obshchee zemledelie. Moskva, Gos.izd-vo
sel'khoz. lit-ry, 1957. 343 p. (MIRA 11:3)
(Agriculture)

BOGORAD, Lazar' Moiseyevich; GAVRILOV, Viktor Gavrilovich, kand.sel'skokhoz.
nauk; GORYACHEVA, Yevgeniya Petrovna, kand.sel'skokhoz.nauk;
LIKHONOS, Fedor Dmitriyevich, doktor sel'skokhoz.nauk; MIKHAYLOV,
Ivan Gavrilovich; PETROV, N.P., red.; MOLODTSOVA, N.G., tekhn.red.

[Manual for orchard foremen on collective and state farms of the
non-Chernozem zone] Spravochnik brigadira-sadovoda; kolkhozov i
sovkhozov nechernozemnoi polosy. Izd.2. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1959. 398 p. (MIRA 14:1)
(Fruit culture)

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0



APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0"

PETROV, N.S., inzhener.
[REDACTED]

Measurement of angles in making a mine survey with a theodolite.

Trudy VNIMI no.26:196-197 '52.

(MLBA 8:3)

(Mine surveying)

PETROV, N.S.; PAVLOV, F.F., redaktor.

[Fundamentals of the theory of errors in measurement] Osnovy teorii
oshibok izmerenii. Moskva, Ugletekhizdat, 1953. 87 p. (MLA 7:3)
(Errors, Theory of) (Surveying)

PETROV, N.S.

A rare case of scarlet fever in an 11-day-old infant. Sov.
med. 19 no.9:83-84 S '55. (MLRA 8:12)

1. Iz Pskovskoy oblastnoy bol'nitsy (glavnyy vrach I.I.Saltan)
(SCARLET FEVER, in infant and child
in 11 days old inf.)

PETROV, N.S.

Some results of the clinical use of nystatin. Sov. med. 24 no. 10:89-
93 0 '60. (MIRA 13:12)

1. Iz kliniki fakul'tetskoy terapii No. 1 (nach. - prof. V.A. Beyyer)
Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(NYSTATIN)

PETROV, N.S.

Change in the peripheral blood and bone marrow during "surgical"
hypothermia. Ekspcr. khir. 5 no.4:50 Je-Ag '60. (MIRA 13:12)
(HYPOTHERMIA) (BLOOD—ANALYSIS AND CHEMISTRY)
(MARROW)

PETROV, N.S., kand.med.nauk, mayor meditsinskoy sluzhby

Candidiasis, its prevention and treatment. Voenn.-med. zhurn. no.5:
30-34 My '61. (MI A 1.1:8)

(MONILIASIS)

PETROV, N.S., kand.med.nauk (Leningrad)

Resistance (adaptation) of the organism to some medicinal preparations. Vrach.delo no.12:72-79 D '62. (MIRA 15:12)

1. Kafedra fakul'tetskoy terapii (nachal'nik - prof. V.A.Beyyer)
Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(DRUGS—PHYSIOLOGICAL EFFECT) (ANTIGENS AND ANTIBODIES)

PETROV, N.S.

Some aspects of postoperative course following pulmonary surgery
in hypothermia [with summary in English]. *Khirurgiia* 35 no.1:
78-87 Ja '59. (MIRA 12:2)

1. Iz kliniki fakul'tetskoy terapii (nach. - prof. V.A. Bayyer) i
kliniki gospi'tal'noy khirurgii (nach. - prof. I.S. Kolesnikov) Voen-
no-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(LUNGS, surgery,

with hypothermia, postop. course (Rus))

(HYPOTHERMIA,

in lung surg., postop. course (Rus))

РРП 1, N. 3.

2008. Petrov, N.S. O Vyt'rezhenii pistoletov-krasnopolitovogo proizvolstva. Mekhanizatsiya stroit-va, 1947, No. 5, s. 13-16

SO: IZVESHCHENIYA - Vol. 28, Moskva, 1947

PERMANENT, ...

PE

... PERMANENT,

1. May, 1953.

2. May, 1953.

3. May, 1953. (This is a copy of the original document, which is a list of Russian accessions to the Library of Congress, dated May 1953.)

9. Monthly List of Russian Accessions, Library of Congress, _____ 1953, Incl.

PETROV, N.S.

Planing parquetry by means of "reverse cutters". Rats.1 izobr.predl.
v strei. no.123:22-23 '55. (MLRA 9:7)
(Parquetry)

PETROV, Nikolay Semenovich; SOSHIN, A.V., doktor tekhnicheskikh nauk,
professor, retsenzent; VOSKRESENSKIY, N.N., inzhener, redaktor;
POPOVA, S.M., tekhnicheskiiy redaktor

[Machines and mechanized tools for the finishing work in building]
Mashiny i mekhanizirovannyye instrumenty dlia stroitel'nykh otdeloch-
nykh rabot. Izd. 2-oe, dop. i perer. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1956. 287 p. (MLRA 9:11)
(Building machinery)

PETROV, N.S., inzhener, redaktor; STUPIN, A.K., redaktor izdatel'stva;
TIKHANOV, A.Ya., tekhnicheskij redaktor.

[Standard plan for the modernization of 1D62 (DIP-20) and
1D62M (DIP-20M)] Tipovoi proekt modernizatsii tokarno-vinto-
reznykh stankov modeli 1D62 (DIP-20) i 1D62M (DIP-20M).
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957.
262 p. (MIRA 10:6)

1. Krasnyy Proletariy, Moscow. 2.Otdel modernizatsii i remonta
stankov Eksperimental'nogo Nauchno-issledovatel'skogo instituta
metalloreshushchikh stankov(for Petrov).
(lathes)

AUTHOR: Petrov, N.S., Candidate of Technical Sciences. 206

TITLE: New machines and mechanised tools for use in surface finishing.
(Novye mashiny i mekhanizirovannyye instrumenty dlya otdelochnykh rabot.)

PERIODICAL: "Mekhanizatsiya Stroitel'stva" (Mechanisation of Construction), 1957, Vol. 4, No. 1, pp. 21 - 24 (U.S.S.R.)

ABSTRACT: The Soviet Ministry for Building and Road Building Machinery (Ministerstvo Stroitel'nogo i Dorozhnogo Mashinostroeniya) is experimenting with various new types of machinery which will be manufactured during 1957. Polishing equipment based on electro-vibration, an electric drill for stone and ceramic slabs, a vibro-sieve for sand, a worm-feeder for the pneumatic transportation of alabaster chippings are described. The following machines and tools are to be manufactured for rendering and plastering: a non-compressor mortar-mixer S-372 consisting of a mortar pump, a mixing drum, an eliminating sieve, all mounted on a frame manoevrable on sliding rails. This machine was constructed by the Odessa Factory for Building Machinery. A feeder for pneumatic transportation of gypsum plaster which is a modification of the existing SPK feeder. It comprises a bunker with a vibro-sieve, a working compartment with a screw-feeder and a mixing drum, with an outlet pipe and an air inlet connection. The screw is worked by an electromotor. This machine was constructed by the Research Institute VNIIS Troidormash, (Fig. 2).

New machines and mechanised tools for use in surface finishing.
(Cont.)

Eccentric sieve for sand (Fig.5): It comprises a movable upper frame with a sieve, which is operated by electromotor-driven eccentric wheels, the return movement of the sieve being secured by springs. The sieve frame is fixed to the bottom frame by 4 hinges. On the top of the sieve a feed-hopper is fixed. The sieve was constructed by the Research Institute VNIIO Inzhinermash.

Vibro-Sieve for filtering plaster mixes: (Fig.4): It consists of a frame to which a sieve is attached by spring hinges. A container placed under the sieve is connected to a suction pipe to the end of which a special plastering implement is attached. The sieve was designed by the above mentioned Institute.

A plastering appliance for confined areas (S-405) (Fig.5): This is intended for smaller jobs where the previously described machines are too big to be handled satisfactorily. Two types

of appliances are described, one for ceiling plastering and the second for wall plastering. It consists of a basket from which the plaster is pumped directly. The plaster is transported by compressed air through a valve into a nozzle and applied to the wall or ceiling in the form of a spray. It was also designed by the above mentioned Institute.

A small cementing gun, O-54 (Fig. 6): This comprises an electromotor and this operates the gun. A dry mixture of sand and cement is put into the hopper from which it falls into the agitator. It is mixed with water and sprayed on to the walls by the action of compressed air (with considerable speed). This

New machines and mechanised tools for use in surface²⁰⁶
finishing. (Cont.)

appliance can also be used for cleaning elevations by means of dry sand. It was constructed by the Moscow Factory of Glavstroimash.

Electrical tool for cutting grooves, S-414 (Fig. 7): This is designed to cut rectangular grooves. It consists of a plane-shaped aluminium case, a handle and a small electric motor which operates the cutter.

Electro-magnetic paint (distemper) controlling equipment, S-404A (Fig. 8a and 8b): This was constructed according to a design by I.I. Antonov. It comprises 2 diaphragm-suction devices which are operated by an electro-magnet. The spray-nozzle is connected to a pipe which is encased in wood. The opposite end of the pipe is adapted for fixing a hose-attachment. This was constructed by the Research Institute of VNIICtroidormash.

There are 10 photographs and diagrams.

SOV-100-11-3-9

AUTHOR:

Petrov, N.S., Candidate of Technical Sciences
Grechushnikov, G.A. Engineer

TITLE:

Development of Mechanization of Finishing Works in the Building Industry During the Past 40 Years and the Program for the Future. (Razvitiye mekhanizatsii otdelochnykh robot v stroitel'stve za 40 let i blizhaysheye zadachi v etoy oblasti)

PERIODICAL: mekhanizatsiya Stroitel'stva, 1957. Nr 11 pp 14-19

ABSTRACT:

A survey is given of the mechanization of plastering and other decorative finishes during the past forty years. Figure 1 illustrates the output of machines and mechanized appliances for finishing processes during the years 1917-1956. In 1953 the production of the first mechanized tools for finishing processes commenced in the 'Mansrobdormash' factory (see Figure 2), mechanized appliances for decorations (Figure 3) and mechanized implements for high quality floor finishes (Figure 4) e.g.:
S-441 and S-442 for sieving mortar
S-443 continuous screw-type feeder for pneumatic transportation of gypsum plaster
S-405 mortar mixing machine

Card 1/2

SCV/ 100-11-3-9

Development of Mechanization of Finishing Works in the Building Industry During the Past 40 Years and the Program for the Future.

S-404A and OL-101 paint mixers
 S-398 a machine for parquet flooring
 S-444 a working bench
 S-415 a grooving machine
 also various machines for the application of distemper, emulsion paint etc.
 S-366, S-383, O-39, S-421, O-58, S-365, S-426, S-470, O-54A.

Figure 5 illustrates the reduction in weight and improvement in design of a mortar suction machine, Type S 317, designed by K.M. Sokolov and D.I. Sokolovskiy and manufactured by the Rost. Kinsky factory. Figure 6 shows the improved design of a pneumatic gun for paint application. Table 1 indicates the increase in volume of mechanically-applied plaster and decorative finishes during the last five years. Table 2 gives the estimated cost of production of the above-mentioned mechanized tools in the period 1956/60. Figure 7 shows the output requirements of these machines for the period 1957/60. There are seven figures and two tables.

Card 2/2

1. Construction equipment—Development 2. Construction equipment—Design 3. Construction equipment—Applications

AUTHOR: Petrov, N.S. (Cari.Tech.Sci.)

10G-4-4 10

TITLE: New devices and automatic implements, for the finishing building trades. (Novye mashiny i mekhanizirovannye instrumenty dlya otdelochnykh rabot).

PERIODICAL: "Mekhanizatsiya Stroitel'stva" (Mechanisation of Construction), 1957, Vol.14, No.4, pp.12-15 (USSR).

ABSTRACT: Paint Spraying Apparatus C-366: Fig.1. This is constructed by the TEKHstavstroimash of the Ministry of Building and Road-building Machinery (Ministerstvo Stroitel'nogo i Dorozhnogo Mashinstroyeniya). It comprises a container with a lid which is secured by clips. A manual agitator is fixed through the lid. The paint is put into the container and the paint is sprayed by the action of compressed air, through a hose and a spray nozzle. Specifications are given. Paint Injecting Container C-383: Fig.2. Designed by the same factory as the above apparatus. This replaces the older types O-20 and O-25. It comprises a container with a secured lid and a manual agitator passing through the centre of the lid, as well as a pressure reducing valve and a manometer. The liquid paint is subjected to compressed air-pressure and driven through filters into a hose which is provided with a spray nozzle. Technical data are given.

1/3

New devices and automatic implements, for the finishing building trades. (Cont.)

100-4-4/16

Universal Disc Stirrer: Fig.3. Designed according to plans by TsKB Glavstroimash. This consists of a cylindrical case with handle and power-connection. The front is designed to accommodate various rotary agitating attachments such as propellers, perforated discs (fixed at an angle), cylindrical agitators with propellers and brush-attachments. This tool is driven by an electric dynamo M-385 or M-27. Technical data are included.

Modified Power-Driven Rotary Paint Grinder O-10A. Fig.4. This comprises an electromotor which operates the grinder through reductions. The spherical rotating base of the container pulverises the paint by pressing and rotation against the stationary outer coat which serves as a container for the granulated paint. An agitator is fixed in the centre of the container. The degree of grinding can be regulated. This apparatus was designed by the Odessa factory for Finishing Trade Machines according to plans of the TsKB Glavstroimash. Specifications are given.

Large Rotary Paint Grinder O-59. Fig.5. This was designed by TsKB Glavstroimash on the basis of the grinder O-10A. It differs only in size and output.

2/3

New devices and automatic implements, for the finishing building trades. (Cont.)

100-4.4/16

Double-Shaft Mixer for Paint Pastes: Fig.6. Constructed by ~~TSKB~~ Glavstroimash and replaces the older type O-43. Specifications are given.

Pump for Emulsion Paints, O-58: Fig.7. Type ЦНМЛ Otdelstroï was constructed by ~~TSKB~~ Glavstroimash. It comprises an electromotor which drives the plunger of the pump. By turning the outer sleeve of the pump by 90° the inlet-openings are placed in positions to correspond with the inlets on the pump and the paint is agitated. If the pump is turned from the previous position the openings close and the liquid is forced through a hose which terminates in a spray-nozzle. Technical data are tabulated.

3/3 Paint Mixer C-365: Fig.8. Type ЦНМЛ Otdelstroï, constructed by ~~TSKB~~ Glavstroimash. It comprises a container, an electromotor which operates an agitator to which short lengths of chains are fitted. Technical data are given.

There are 8 figures.

AVAILABLE:

PETROV, N.S., kand.tekhn.nauk

New machines and power tools used in finishing work. Mekh.stroi.
14 no.6:28-31 Je '57. (MIRA 10:11)

(Finishes and finishing) (Building machinery)

PETROV, N.S., kand.tekhn.nauk; GRECHUSHNIKOV, G.A., inzh.

Development of the mechanization of finishing operations in
construction during the last 40 years and the most immediate
tasks in the field. Mekh.stroi.14 no.11:14-19 N '57. (MIRA 10:12)
(Finishes and finishing) (Building machinery)

ACC NR: AP7004142

SOURCE CODE: UR/0051/67/022/001/0119/0122

AUTHOR: Boyko, B. B.; Petrov, N. S.; Valyavko, V. V.; Vashkevich, I. M.

ORG: none

TITLE: Prism reflectors to reduce laser beam divergence

SOURCE: Optika i spektroskopiya, v. 22, no. 1, 1967, 119-122

TOPIC TAGS: laser beam, beam focusing, solid state laser, laser output, optic prism, light reflection

ABSTRACT: The discussed prism reflectors make use of total internal reflection near the limiting angle. The advantages claimed over right-angle total internal reflection prisms are that their efficiency does not depend on the cavity length and that they produce less noise, luminescence, or various parasitic modes. Tests made by the authors have shown a rhomboidal prism with acute angle equal to the limiting angle to be the most effective with respect to reducing beam divergence. These prisms were also compared in the experiments with the prisms described by J. A. Giordmaine and W. Kaiser (J. Appl. Phys. v. 35, 3446, 1964) (both types of prism were made of fused quartz). The rhomboidal prism with limiting angle $43^{\circ}24'15'' \pm 02''$ proved most effective for a ruby laser (120 x 12 mm with ground lateral surface) operating at about 3 times the threshold. The generation of inclined rays rather than those of the desired beam is suppressed in such prisms by the strong dependence

Card 1/2

UDC: 621.375.9:535

ACC NR: AP7004142

of the reflection coefficient on the incidence angle of the beam. Replacement of the ordinary cavity mirrors with rhomboidal prisms in mutually crossed position reduced the beam diameter by about one-half, whereas a right prism produced practically no reduction in the beam diameter. Although the use of the rhomboidal prisms caused some reduction in the absolute value of the generated energy, the energy density increased by approximately 3 times. It is concluded that the use of rhomboidal prisms to decrease the angular divergence can be used in various solid-state lasers. Orig. art. has: 4 figures.

[02]

SUB CODE: 20/ SUBM DATE: 12Jul65/ ORIG REF: 001/ OTH REF: 003
ATD PRESS: 5115

Cord 2/2

PET. 07, R.S.; FEDOROV, P.I.

Conditions for the absence of birefringence in crystals
with central symmetry. Opt. i spekt. 18 no. 4:1053-1056
Je '65. (MIRA 18:12)

L 5413-66 EWA(k)/FED/EWT(1)/EEC(k)-2/T/ENP(k)/EWA(m)-2/EWA(h) SCTB/LJP(c) WG
 ACCESSION NR: AP5025090 UR/0368/65/003/003/0234/0237
 621.375.9 : 535.89

AUTHOR: Boyko, B. B.⁴⁴; Petrov, N. S.⁴⁴; Valyavko, V. V.⁴⁴; Vashkevich, I. N.⁴⁴

70
64
E

TITLE: Plane parallel plates as laser reflectors^{25,44}

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 3, 1965, 234-237

TOPIC TAGS: laser, ruby laser, resonator, geometric optics, laser pumping, reflection coefficient

ABSTRACT: The assumption that near-maximum reflection coefficients occur in experiments with laser reflection systems is directly verified. A simple method is used: reflectors with well-known reflection coefficients are replaced by the test plates and the operation of the laser in the first configuration is compared with that in the second. The ruby crystal used was a rod 120 mm long and 12 mm in diameter and had matte lateral surfaces. An IFP-2000 lamp was used for excitation. According to the experimental methodology, one reflector was used, consisting of a multilayer dielectric mirror having a reflection coefficient very close to unity. In this case the reflection at the other end is determined purely by the Fresnel

Card 1/2

09010636

L 5413-66

ACCESSION NR: AP5025090

6

coefficient, which is 0.076 at a wavelength of 6943 Å. Next, two identical plane parallel reflectors were selected such that the same threshold pumping energy was required. These quartz plates, were 10 mm thick, flat to within 0.1 λ, parallel to within 1.5" and formed a configuration equivalent to one with a single ideal mirror with respect to the threshold pumping energy. In all of the numerous experiments, both with a single mirror and with the plates, generation occurred at a threshold energy of 2070 joules and was absent at 2010 joules; losses were therefore assumed to be identical. It is shown, in approximation, that the calculated reflection of 27.6% is close to the maximum of 33.2%, and closer approach to absolute maximum can be achieved with thicker plates. Tests were also made with glass plates, the outer surfaces (away from the ruby) of which were spoiled by a special coating. The threshold pumping energy was only 3% greater than for the previous case. Here too the reflection coefficient was very close to maximum. Uncoated plane-parallel glass plates, it is found, can provide reflectivity of 30 to 50% in lasers. Among other advantages, such plates are stable and reliable and provide laser tuning capabilities. The authors acknowledge discussions with B. A. Cotskiy, A. M. Goncharenko and F. I. Fedorov. Orig. art. has: 1 figure. [14] 44

ASSOCIATION: none 44

SUBMITTED: 25Dec64

NO REF SOV: 003

BVK
Card 2/2

ENCL: 00
OTHER: 000

SUB CODE: EOP
ATD PRESS: 434

PETROV, N.S.; NGUYEN TKHE KKHAN'

Some indices of natural immunity in lymphogranulomatosis patients.
Vop. onk. 11 no.1:25-30 '65. (MIRA 18:6)

1. Iz kafedry fakul'tetskoy terapii (nachal'nik - prof. V.A.
Beyser) Voenno-meditsinskoy ordona Lenina akademii imeni Kirova.

L 2821-66 EWT(1)/T IJP(c) GG

ACCESSION NR: AP5016179

UR/0051/65/018/006/1053/1056
548.0:535.001.1

AUTHOR: Petrov, N. S.; Fedorov, F. I.

TITLE: On the conditions for the absence of birefringence in absorbing crystals of medium syngonies

SOURCE: Optika i spektroskopiya, v. 18, no. 6, 1965, 1053-1056

TOPIC TAGS: crystal structure, crystal symmetry, crystal absorption, light absorption, double refraction, light refraction

ABSTRACT: The authors consider the case of absence of birefringence (and double absorption) in absorbing crystals of medium syngonies for oblique incidence of the light. It is shown that for a specified orientation of the optical axis of the crystal the inhomogeneous waves experience no birefringence for two different directions of the normal of the incident wave, unlike the special case of total reflection in transparent crystals. If the absorption is weak, the absorbing crystal does not differ in this respect from a transparent crystal. Orig. art. has: 14 formulas.

ASSOCIATION: None

Card 1/2

L 2821-66

ACCESSION NR: AP5016179

SUBMITTED: 05Aug63

ENCL: 00

SUB CODE: SS, OP

NO REF SOV: 005

OTHER: 000

OC
Card 2/2

L 47049-65 EWA(k)/FED/ENG(r)/EWI(l)/EEC(k)-2/EEC(t)/I/EEC(h)-2/EWP(k)/EWA(m)-2/
EWA(h) Pm-4/Pi-4/Pe-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c) WG

ACCESSION NR: AP5007549

8/0368/65/002/001/0084/0087

AUTHOR: Petrov, N. S.; Boyko, B. B.

62
60
8

TITLE: On generation in a laser with external mirrors

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 1, 1965, 84-87

TOPIC TAGS: laser, laser mirror system, laser action, optimum lasing condition

ABSTRACT: In view of the possibility of interference effects in a laser with external mirrors, due to the high monochromaticity of the laser emission, the authors obtained a regular solution of Maxwell's equations for the laser system under the assumption that diffraction effects can be neglected. It is shown that a frequency corresponding to optimal lasing conditions is always present among the possible laser generation frequencies and that at this frequency the reflection coefficients are closer to maximal than to average values. The effect of light propagation at an angle to the axis of the rod is analyzed, an expression is obtained for the maximum Q of the system, and it is shown that the same maximum Q is obtained for different angles, but at different frequencies. This leads to a dependence of the frequency on the angle. "In conclusion the authors thank

Card 1/2

L 47049-65

ACCESSION NR: AP5007549

B. I. Stepanov and B. A. Sotskiy for a useful discussion of the results." Orig.
art. has: 13 formulas and 1 figure. 2

ASSOCIATION: None

SUBMITTED: 01Sep64

ENCL: 00

SUB CODE: EC

NR REF SOV: 002

OTHER: 000

byo
Card 2/2

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0

SECRET

CONFIDENTIAL

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510008-0"

PETROV, N.S.; FEDOROV, F.I.

New type of plane electromagnetic waves in absorbing
crystals. Opt. i spektr. 15 no.6:792-796 D '63.

(MIRA 17:1)

SOCHIN, A.V., doktor tekhn. nauk; prof.: SOCHIN, A.V., dokt. tekhn. nauk, prof.; SOCHIN, A.V., A.S., dokt. tekhn. nauk, dots.; SOCHIN, A.V., inzh.; SOCHIN, A.V., dokt. tekhn. nauk; SOCHIN, A.V., inzh., nauchn. sot.

1 "Technology of the Non-ferrous Metallurgy" (Moscow, Stroitel'nogo proizvodstva, 1977, No. 1, p. 10).
Stroizdat, 1977. 43 p.

KURDYBAYLO, F.V., doktor med. nauk; PETROV, I.S., kand. med. nauk

Therapeutic efficacy of bone marrow transplantation in some
blood diseases. Sov. med. 26 no.11:46-51 N'62 (MIRA 17:3)

1. Iz kliniki fakul'tetskoy terapii (nachal'nik - prof. V.A.
Beyyer) Voenno-meditsinskoy ordena Lenina akademii imeni
S.M. Kirova.

ACCESSION NR: AP4020966

S/0051/64/016/003/0513/0516

AUTHOR: Petrov, N. S.; Goncharenko, A. M.; Sotskiy, B. A.

TITLE: Concerning self-excitation in a plane-parallel slab in the presence of total reflection

SOURCE: Optika i spektroskopiya, v. 16, no. 3, 1964, 513-516

TOPIC TAGS: laser, laser oscillation, stimulated generation, self-excitation, laser slab, plane-parallel slab, reflection, laser slab reflection

ABSTRACT: Under the usual conditions of generation (laser oscillation) in a plane-parallel slab, energy is emitted through one or both faces (given a sufficient thickness of the metallic coating on the other); that is, under conditions in which part of the energy is lost due to absorption. This can be avoided by providing for complete reflection by bevelling at least one of the end faces to the angle of total reflection. Thus, the stimulated emission from a spherical specimen observed by C. B. Garret, W. Kaiser, and W. L. Bond (Phys.Rev., 124, 1807, 1961) may be explained by increase of the reflection coefficient at near total reflection angles. Accordingly, the present paper analyses the possibility of generation (self-excitation)

Card 1/2

ACCESSION NR: AP4020966

of electromagnetic waves in a plane-parallel slab under conditions of total reflection. The approach is solution of the Maxwell equations with the appropriate boundary conditions; an analogous problem was solved earlier by two of the authors (A. M. Goncharenko and B. A. Sotskiy, DAN BSSR, 6, 223, 297, 1962), and the expressions for the condition necessary for self-excitation are taken from those papers. By separation of the real and imaginary parts and introduction of the Fresnel reflection coefficients, the conditions for self-excitation in a plane-parallel slab are derived in the case of total reflection from both faces. Analysis of the expressions shows that self-excitation is impossible if the imaginary component of the dielectric constant (i.e., the negative absorption) is smaller than zero, that is, in the region of linear optics; however, the energy density in the layer may build up to the point where in the limit the medium becomes transparent and self-excitation becomes possible (but, of course, no radiation can be extracted without violating the condition for total reflection). The equations are also extended to the case of a slab with total reflection only at one face; in this case self-excitation (laser oscillation) becomes possible in the region of linear optics. The condition for generation is affected primarily by the value of the ordinary Fresnel reflection coefficient. "The authors are grateful to F. I. Fedorov and B. V. Bokut' for their interest in the work." Orig. art. has: 21 formulas and 2 figures.

Card

2/3

PETROV, N.S.; GONCHARENKO, A.M.; SOTSKIY, B.A.

Self-excitation of a plane-parallel layer in the case of total
reflection. Opt. i spektr. 16 nr.3:513-516 Mr '64.
(MIRA 17:4)

ACCESSION NR: AP4609463

S/0051/63/015/006/0792/0796

AUTHOR: Petrov, N.S.; Fedorov, F.I.

TITLE: New form of plane electromagnetic waves in absorbing crystals

SOURCE: Optika i spektroskopiya, v.15, no.6, 1963, 792-796

TOPIC TAGS: electromagnetic wave , plane wave , nonuniform wave , crystal absorption, Maxwell equation, refraction

ABSTRACT: It was shown earlier (F.I.Fedorov, Optika anizotropnykh sred [Optics of anisotropic media], Minsk, 1958) that in the case of oblique incidence of light on an absorbing crystal of the one of the middle crystallographic systems birefringence will be absent on condition that $[m_0 c]^2 = 0$, where m_0 is the refraction vector of the refracted nonuniform wave, and c is the unit optical axis vector. When this condition is fulfilled the ordinary and extraordinary waves are indistinguishable; hence there is propagated through the crystal only one purely exponential wave with circular polarization. The purpose of the present work was to solve the Maxwell equations and the boundary problem for the above described particular case of absorption in middle-system crystals. Equations are written for m_0 and c , and the

Cord^{1/2}

ACC.NR: AP4009463

Maxwell equations are solved, using these expressions to find the electric and magnetic field vectors. The boundary problem is susceptible of solution only for a particular form of the electromagnetic wave given by the solution of the Maxwell equations. The characteristics of the waves propagating in the crystal are described; they are non-uniform plane waves with exponentially decreasing amplitude. The conditions when such waves may appear are discussed. It is noted that waves of this new distinctive type can also appear incident to oblique incidence of light on absorbing crystals of lower symmetry systems. Orig.art.has: 50 formulas.

ASSOCIATION: none

SUBMITTED: 10Jan63

ACQ.DATE: 03Jan64

ENCL: 00

SUB CODE: PH

NR REF SOV: 004

OTHER: 001

Card 2/2

PETROV, N.S., inzh.

Mechanization at the storerooms for finished products.
Dum.prom. 35 no.6:8-9 Je '60. (MIRA 13:7)
(Balakhna--Paper industry--Equipment and supplies)
(Loading and unloading)

PETROV, N.S., kand.tekhn.nauk

Finishing machines in the Polish People's Republic. Mekh.
stroj. 18 no.6:27-29 Je '61. (MIRA 14:7)
(Poland—Building machinery)

PETROV, N.S., kand. tekhn. nauk

Experimental welding of thermoplastic linoleum floor coverings.
Mekh. stroi. 20 no.10:10-11 0 '63.
(MIRA 16:10)

KHADZHIDOCHEVA, Subka Iv. inzh.; PETROV, Naiden St., inzh.

The Tyulenovo mazut as a softener of caoutchouc mixtures. Kozhi
Sofia 3 no.6:9,12-13 '62.

PETROV, Nikolay Stepanovich; PAVLOV, F.F., otv.red.; KOROLEVA, T.I.,
red.izd-va; SHKLYAR, S.Ya., tekhn.red.; BOLDYREVA, Z.A., tekhn.red.

[Mine surveying] Marksheiderskoe delo. Izd.2. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 476 p.
(Mine surveying) (MIRA 13:9)

BELOV, A.A.; BELOV, Yu D.; BEZHETSKIY, A Ye.; KUNYAYEV, Ye.V.;
LYALIKOV, G I ; PETROV, K S., SLAVOROSOV, A.Kh.;
BOLDYREVA, Z.A., tekhn. red.

[Concise mine surveyors' reference book]Kratkii spravochnik
marksheidera shakhty. Moskva, Gosgortekhnizdat, 1962. 416 p.
(MIRA 15:9)

(Mine surveying)

PETROV, Nikolay Stepanovich; SLAVOROSOV, A.Kh., red. izd-va;
MESHCHANKINA, I.S., tekhn. red.

[Fundamentals of the theory of measurement errors] Osnovy
teorii oshibok izmerenii. Izd.2. Moskva, Gosgortekhnizdat,
1963. 73 p. (MIRA 16:6)

(Mensuration)

L5078

S/051/63/014/001/017/031
E039/E120

AUTHOR: Petrov, N.S.

TITLE: Inhomogeneous waves in transparent uniaxial crystals

PERIODICAL: Optika i spektroskopiya, v.14, no.1, 1963, 106-111

TEXT: On the basis of an invariant method the properties of inhomogeneous waves in transparent uniaxial crystals are examined. General formulae are obtained for the refractive index and coefficient of extinction of these waves. The conditions for linearity of the vectors $\underline{E}(D)$ and $\underline{H}$ for ordinary and extraordinary waves are determined and also the elliptical polarization parameters for waves propagated in the plane of symmetry of the crystals. It is shown that for inhomogeneous waves double refraction is absent for a definite range of orientation of the plane of incidence with the corresponding angle of incidence given by:

$$0 \leq \varphi \leq \arccos \frac{\sqrt{\epsilon_0}}{n} \quad (37)$$

Card 1/2

Inhomogeneous waves in transparent...

S/051/63/014/001/017/031
E039/E120

where φ is the azimuthal incidence angle, ϵ_0 is the principal value of the dielectric permeability tensor, and n is the refractive index.
There is 1 figure.

SUBMITTED: December 30, 1961,

Card 2/2

S/051/63/014/002/012/026
E039/E120

AUTHORS: Fedorov, F.I., and Petrov, N.S.

TITLE: A special case of non-uniform electromagnetic waves
in transparent crystals

PERIODICAL: Optika i spektroskopiya, v.14, no.2, 1963, 256-261

TEXT: It is shown that with complete reflection of a normal plane electromagnetic wave from a transparent crystal non-uniform waves of a special form may arise, the field of which contains not only an exponential factor but also a linear polynomial. Maxwell's equations are solved for waves of the form:

$$E = (\underline{f}_1 + \underline{f}_2 \underline{\zeta}') e^{i(\underline{\zeta} - \omega t)} \quad (3)$$

where $\underline{\zeta}' = kqr$ (q is the normal to the surface boundary directed from the first medium to the second). The equations for the scalar parameters A' , B' , f_1^0 , f_2^0 are derived and are as follows:

$$\underline{E} = \left\{ f_1^0 \left[\underline{m} \underline{c}_+ \right] + f_2^0 \left(\underline{d} + \epsilon' \underline{\zeta}' \left[\underline{m} \underline{c}_+ \right] \right) \right\} e^{i \dots} \quad (21)$$

Card 1/2

A special case of non-uniform ...

S/051/63/014/002/012/026
E039/E120

$$\underline{H} = \left\{ f_1^0 \left[\frac{m_0}{\Delta} \left[\frac{m_0}{\Delta} \frac{c}{\Delta} \right] \right] + f_2^0 \left(\frac{d}{\Delta} + \epsilon' \left[\frac{m_0}{\Delta} \left[\frac{m_0}{\Delta} \frac{c}{\Delta} \right] \right) \right] \right\} e^{i\phi} \quad (23)$$

$$\left. \begin{aligned} A' &= \frac{1}{\Delta} \left\{ \left[2a^2 (\eta - in_0) (\epsilon_0 \eta + in_0 n^2) + \epsilon' (\epsilon_0 \eta^2 - n_0^2 n^2) \right] A \pm 2n_0 n \eta \epsilon' \sqrt{\epsilon_0} B \right\} \\ B' &= \frac{1}{\Delta} \left\{ \left[2a^2 (\eta + in_0) (\epsilon_0 \eta - in_0 n^2) + \epsilon' (\epsilon_0 \eta^2 - n_0^2 n^2) \right] B \pm 2n_0 n \eta \epsilon' \sqrt{\epsilon_0} A \right\} \end{aligned} \right\} \quad (30)$$

$$\left. \begin{aligned} f_1^0 &= \frac{2ia^2 \eta}{\Delta n_0 \sqrt{\epsilon_0}} \left\{ \left[2a^2 (\epsilon_0 \eta + in_0 n^2) + \epsilon' \epsilon_0 \eta \right] A \pm n_0 n \epsilon' \sqrt{\epsilon_0} B \right\} \\ f_2^0 &= \frac{2ia^2 \eta}{\Delta \sqrt{\epsilon_0}} \left\{ \left[\epsilon_0 \eta + in_0 n^2 \right] A \pm in_0 \sqrt{\epsilon_0} (\eta + in_0) B \right\} \end{aligned} \right\} \quad (31)$$

It is shown that when the solution has the form of Eq.(3) the boundary condition problem is solved more easily.

SUBMITTED: February 19, 1962

Card 2/2